

TRAINING NOTES



Effective Fire Support at the JRTC

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During many of the missions a battalion commander might encounter at the Joint Readiness Training Center (JRTC), the key to victory is the effective use of fire support. Fire support assets must be properly arranged on the battlefield—in time, space, and priority—to be synchronized with the other combat functions and to produce the maximum effects at the decisive point of the engagement.

As the fire support observer-controller at the JRTC, I would like to offer commanders and their staffs some tactics, techniques, and procedures for the successful use of fire support, whether during deployment at the JRTC or on an actual contingency mission.

Several positive trends in fire support at the JRTC clearly demonstrate a higher level of awareness and training among commanders and their staffs in the integration of joint assets, the use of mortars, and technical gunnery.

Air liaison officers (ALOs) and personnel of the Marine Corps air and naval gunfire liaison company (ANGLICO) are now more quickly assimilated into brigade and battalion staffs. These personnel are made part of the planning process, and air and naval gunfire requests are tied to the maneuver plan

early enough to ensure that air tasking orders are correct and support ships are within range. Often, Marine Corps fire-power control teams are infiltrated with unit scouts for early integration of the task force's fire support.

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sions, twice as many as in the past few years. Company commanders know they will always have priority of fires for their own mortars; fires can be cleared rapidly and adjusted close to friendly troops.

Field artillery battalions now support task forces in many ways other than fire support. It is common to see battalion survey sections placing declination stations for mortar aiming circles and M-2

compasses near landing zones and drop zones. They also survey engineer obstacles to ensure that the target list grids are correct. Fire support officers rapidly gain permission and targets on which to register mortars, and battalion fire direction centers now send meteorological data to the battalion mortars. All of these techniques help provide more accurate indirect fires.

Despite these positive trends, however, the following areas still need emphasis:

Acquiring targets. Units are often unable to find their targets, sometimes because the enemy is on the move and mortars or artillery have not been following the maneuver unit with the priority targets. In the defense, fires usually fall behind the fast-moving enemy because no trigger points have been established before an engagement area. Often, during an attack, the objective has not been accurately located, and the unit does not find the objective until it has already closed with the enemy and cannot use its firepower advantage.

Tracking the battle. Before fires can be cleared in an area, the positions of all friendly units and civilians must be known. All task force elements must send frequent spot reports to the battle

captains, and these locations must be relayed to all units that may be affected.

Integrating fire and maneuver. Fires are wasted if they are not on target when and where the maneuver units need them. Fires can easily be initiated on a grid at a specified time; the problem arises when there are no accurate target coordinates or when fires are initiated on the grid but the maneuver unit is not there. Too often, indirect fire assets are used on templated grids prepared by the S-2 and not confirmed by the reconnaissance and surveillance (R&S) plan. Basically, rounds are fired at the S-2's best guess. If enemy locations have not been confirmed, observers must adjust fires onto the objective before the assault. A maneuver unit that is not in an attack position when fires are about to be delivered must cancel the fires and wait until it is in the best position to take advantage of them. If the objective is not where it has been predicted, the unit must delay the attack until an observer has adjusted onto the target.

Integrating intelligence. The S-2 must be properly integrated into the targeting process. Daily targeting meetings are usually held in brigade and battalion tactical operations centers (TOCs), but they are not as productive as they should be because intelligence officers are not specific about the locations of the targets the commanders want to eliminate. Sometimes the intelligence officer does not even go to the meetings, and he is the one who must tie the R&S plan with targeting.

Fire Support Guidance

Fire support guidance is the most important contribution a commander makes to his fire support effort. This guidance, formerly known as the commander's intent for fire support, is a description of what the commander wants his fire support to accomplish. It must be specific and detailed, because it sets in motion resource planning, unit movements, intelligence gathering, and all the other tasks that must be completed before an operation begins. If the guidance is poor, fire support will not be used to its best advantage, or it will not



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be properly integrated with the scheme of maneuver.

The commander's fire support guidance should accomplish the following goals:

- Establish what the commander wants each of his fire support assets, including mortars, to accomplish during each phase of his mission. The guidance should state how fire support will influence the battle and support his scheme of maneuver. The commander links the support to phases, events, or terrain, and this information becomes the basis of the fire support execution matrix.

- Tell what his targeting priorities are and the effects (*suppress*, *neutralize*, or *destroy*) that he wants to achieve on the targets. The commander may want to specify the effects during the targeting meeting, keeping in mind that, to a fire supporter, *destroy* or *neutralize* may trigger a massive logistic requirement. Also, *suppression* is linked to time, and the commander must state when he wants suppression and for how long.

- State his force protection priorities. These priorities determine locations for counterfire search sectors, radar zones, final protective fires (FPFs), and other priorities he may designate.

- Discuss the use of such special munitions as FASCAM (family of scatterable mines), Copperhead, smoke, DPICM (dual-purpose improved con-

ventional munitions), and restrictions (no-fire areas, restricted fire lines).

- State times and places in the battle where fire support is critical.

- Discuss any other major concerns such as fratricide prevention, control measures, contingency plans, and subsequent operations.

In the Offense

In the attack, a commander and his staff should accomplish the following:

- Link the priority target list to the decision support template, and change priority targets as the force advances.

- Develop a fire support plan for the scouts. The scouts may need attached forward observers if the commander wants harassing fires on the objective. When conducting harassing fires to interdict enemy engineering efforts, observers should use indirect fires and then leave the area so the enemy counter-reconnaissance force will not find them. Their main objective should be to obtain a good grid location for each target for preparation fires.

- Use timely deception fires.

- Fire smoke to screen movement, obscure combat outposts, and aid breaching operations. Units should use as much smoke as possible, even at night.

- Dispatch observers, with security, to adjust fires with non-lethal munitions

if the scouts have not pinpointed the objective for preparation fires and the terrain restricts observation. The observers can then adjust onto the target and move to the minimum safe range before calling for high explosive rounds in effect.

- Use smoke to isolate the parts of the objective not being directly assaulted. This is an excellent mission for 81mm mortars.

- Mass as much indirect fire as possible on the portion of the objective to be assaulted and, if the fires are not on the objective, have the fire support officer (FSO) adjust them. It takes a lot of rounds to destroy troops who have overhead cover. A more realistic mission is to keep the enemy suppressed until the breach is made.

- Echelon fire support assets. Fire artillery until troops are at the minimum safe distance, and then use mortars. If tanks are leading, 60mm mortar rounds can almost lead them through the breach.

- Before the attack, give the company FSO an idea of where to place FPF. As soon as an observer is through the breach, he should start adjusting his FPF to make sure it is ready before a counterattack. If FASCAM is authorized, the task force plan should show where and when to emplace it before the attack. Then the minefield must be kept under observation after it is emplaced. FASCAM is normally used to stop a counterattack force or to block a route into an objective area.

How long should preparation fire continue? The answer should be in the commander's fire support guidance and should be linked to an event, not to a time. The criteria of *destroy*, *neutralize*, or *suppress* should be linked to the intelligence preparation of the battlefield template. But indirect fire support to neutralize or destroy an objective may not be practical, especially in a contingency operation where limited ammunition and few heavy assets are available. The length of the preparation is determined by the time it takes to meet the commander's criteria. A 105mm battalion could fire for 30 minutes against

troops with overhead cover and armor support and still not meet an attack criterion, but suppressive fires and smoke can be effective. The length of the preparation for suppressive fires should equal the time it takes to move from the attack positions to the minimum safe distance line; then smoke can be fired and suppressive fires shifted to other parts of the objective.

In the Defense

Contingency operations usually restrict the types and amounts of fire support weapons and ammunition in theater. Planning for a defense must therefore consider these limitations:

- Because of restricted ammunition resupply rates, trying to hit moving armored vehicles, or a few rapidly moving dismounted reconnaissance elements, may not be the best use of these limited assets.

- Any 155mm units that may be in theater should be used in the counterfire battle. The commander may have to choose between Copperhead and a FASCAM minefield in fighting armor. In close terrain such as that at the JRTC, a combat observation lasing team (COLT) may never find terrain that is open enough for a good Copperhead shot. Although aviation can also use lasers, the brigade fire support coordinator (FSCOORD) may not have the positioning authority to move the 155mm units to a location that supports the proper firing angle.

- Each battle position must keep enough ammunition for successful final protective fires.

Fires can be massed on high payoff targets and on dismounted soldiers stalled at obstacles. Each obstacle needs someone watching it—usually a forward observer, an engineer, or an infantryman. The final obstacle placement grid should be determined by global positioning system (GPS) or survey, and the task force target list updated. Each observer should be given a 3x5 index card showing the call sign, frequency, nearest target number, direction to the target in mils, and instructions on how to shift fire onto the obstacle. The compa-

ny FSO should execute this mission for every obstacle in his area.

In restrictive terrain, it is difficult to use trigger points for indirect fires, because vehicles do not keep a steady pace and observation is limited. But trigger points can give effective early warning to fire smoke in front of vehicles and cause them to slow down even more. The observer can then call for indirect fires to strip away the dismounts, making the vehicles more vulnerable to direct fire weapons.

A FASCAM minefield can be very effective in turning an enemy force, but if it is not tied into other obstacles the enemy will hit it and turn in a direction that may be away from the engagement area. To keep its momentum, the opposing force usually tries to go around an obstacle. The best way to use FASCAM is to put in two or more turning obstacles with a 400-meter opening between them. Reconnaissance forces will spot the opening and direct their forces to it. After the reconnaissance element has gone by, the FASCAM is fired; the main body hits the minefield and turns in the direction of least resistance, which is determined by the placement of the other obstacles.

FASCAM must be planned well ahead of time, and the brigade FSO must compute a safety box. It usually takes about 20 minutes for a battery to fire the minefield. Once it is in, an observer needs to move through the safety area so he can call for fire against any enemy forces that are caught in the minefield or stalled in front of it. An observer from the COLT is effective in this job, because he can rapidly move into the area after the minefield is fired and observe during periods of limited visibility.

The most effective use of fire support in the defense is through the use of a joint air attack team (JAAT). Armored vehicles caught in open areas or roads can be destroyed if the team is well coordinated between close air support, Army aviation, the brigade engineer, signal jammers, and artillery suppression of enemy air defenses and FASCAM fires. This mission should be

planned at brigade level, not handed to the aviation or maneuver task forces. Success requires detailed planning, rehearsals, and redundant communications.

The most difficult environment for a fire supporter is probably that found in operations other than war. On a non-linear battlefield—with non-governmental agencies, civilians, and restrictive rules of engagement—clearing fires is more difficult and time-consuming. Fire support guidance for such operations should therefore be considered:

- The rules of engagement (ROEs) must be clearly understood. They may prohibit unobserved fires, for example, but it may not be clear whether this includes radar or non-lethal munitions.

- Fire support cannot be used indiscriminately. Harassing fires (formerly called harassing and interdicting fires), as used in Vietnam, could serve only to diminish popular support among the civilians.

- The use of improved conventional munitions, or other high dud-producing munitions, should be restricted.

- Close coordination with the host nation's units, multinational forces, and non-governmental agencies is necessary—if possible, using a communications link and a liaison officer.

- Civilians must be closely monitored. The psychological operations and civil affairs (PSYOP/CA) staff can be used to establish a dusk-to-dawn curfew and to warn the populace that hostile acts may bring retaliation with indirect fires. Restrictive-fire areas should be used around towns and no-fire areas around shrines and other treasured landmarks.

- The accuracy of indirect fire systems—always important in limiting collateral damage and fratricide—is critical in OOTW because of the ROEs, the need for popular support, the closeness of terrain, political concerns, and the proximity of fires to friendly troops. If the FSCOORD advises, mortars and artillery pieces should be registered. It may be necessary to coordinate with the host government for areas to register. A unit in a buffer zone during a peace enforcement operation will find it better to register into areas of both belliger-

ents; this gives data in both directions, treats both parties equally, and is an excellent show of force.

During search and attack operations, units usually maneuver as squads or platoons, and this presents another fire support challenge. The company commander has at least two mortar sections, three platoon forward observer teams, the FSO, and the FSNCO. If his search area has not been given additional assets, he must decide which of his elements will have priority.

One option is to assign a mortar section to move with the element that has priority of fires; if these two elements come into contact with the enemy, however, the mortar section may have to move to get adequate overhead clearance. Another option is to place both mortars with the company command post and have each one lay on a priority target. Observers should be given to the elements most likely to be in contact. The company commander and FSO develop a fire plan for the element with priority of fires. Priority targets are placed along the route. The element leader conducts a reconnaissance by fire when he comes close to the target. When he passes the target, he cancels it and has the mortar section lay on the next priority target. When the unit comes into contact, it fires the priority target, then adjusts the fires to isolate, fix, and finish the enemy force, or to set the conditions to maneuver against it.

Using Mortars

Whenever possible, commanders should use their mortars first, because in most situations they can be cleared and fired faster than other fire support assets. When deploying, commanders should consider the following:

- Register as soon as possible in every position.

- Anticipate ammunition requirements. Local unit ammunition caches may have to be established to aid distribution.

- Echelon mortars with the other fire support assets in the attack.

- Make sure the mortar section understands the commander's guidance for fire support. Include the mortar

crews in briefbacks, rehearsals, and communication exercises, and give them a fire support matrix.

- Mortars need to deploy with all their section equipment including mortar ballistic computer, plotting boards, and base plates.

- When mortars arrive in theater, the sections must declinate aiming circles and M-2 compasses. The field artillery battalion can provide a declination constant in the fire support plan before deployment and a declination station close to the forward landing strip or drop zone.

- The FSO must coordinate for survey and meteorological data.

To get the most from their indirect assets, brigade and battalion task forces need to provide several areas of support:

From platoon leader to brigade commander, the relationship with the FSO decides the effectiveness of indirect fires. Synchronization suffers if the FSO is not in the planning process, rehearsals, communications exercises, or part of the team. In most contingency operations the fire support elements are attached to maneuver units. Replacements and supplies are requisitioned for them just as they are for the assigned maneuver forces.

Where should the FSO be located? The brigade FSCOORD is the direct support field artillery battalion commander, and he chooses a location from which the FSO can best execute the brigade commander's fire support guidance, usually the brigade TOC. Task force and company FSOs must be able to execute changes to guidance, which means they should be close to the commander but still have excellent communications and the ability to track the battle. Forward observers, and at times FSOs, have to be in a position to observe fires and execute the plan, which means they may need to separate from their commanders.

Task force TOCs need to be large enough to house the ALO and ANGLICO personnel so they can be part of the planning process and track the battle effectively.

During operations other than war, when there is no air or major artillery

threat, the firing batteries need engineer assets to build fire bases. The main threats to the batteries and radar are ground attacks, mortars, ambushes, mines, and snipers. Given a bulldozer operator and a small emplacement excavator for eight to 12 hours, a battery should be able to dig itself in.

Holding targeting meetings at brigade and battalion ensures the linkage of the commander's intent, intelligence assets, the assault force, and damage assessment elements to evaluate the results of delivered fires. Targeting meetings

must be held to ensure that the available intelligence assets are used properly and are focused on the commander's priorities.

Fire supporters must participate in rehearsals. FSOs and mortarmen should brief along with their commanders so that fires can be integrated with the maneuver plan at the right place and time.

The mission of fire supporters is to synchronize and execute indirect fires to meet the combined arms commander's guidance for fire support. The realistic

training at the JRTC prepares a commander to deploy anywhere in the world and accomplish his mission knowing that his indirect fire capability greatly increases his unit's lethality and his ability to protect the force.

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The TOW Master Gunner Course

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In response to the Infantry School's TOW Accuracy Study, some changes have been made in the way the School trains TOW crews. Many improvements have been incorporated into the training conducted at Fort Benning and at unit level.

The old TOW Leader Course, which trained both officers and noncommissioned officers (NCOs), has been replaced by two separate courses: The two-week TOW Platoon Leader Course teaches the basic technical and tactical skills to officers, and the four-week TOW Master Gunner Course teaches advanced technical skills and training management to experienced, MOS-qualified NCOs.

The TOW Master Gunner Course is now the Army's only formal program of instruction for NCOs in MOSs 11H and 19D on the advanced technical aspects of the TOW and related equipment. Its purpose is to train these selected NCOs on advanced TOW gunnery, planning and implementing gunnery training, advanced training management, sec-

ondary weapons, TOW system and carrier maintenance, and all related training devices.

Unlike the old course, this one does not include instruction on Skill Level 1 tasks. Commanders must certify that NCOs reporting for the course have passed the Gunner Skill Test (score of at least 70 percent), in accordance with Field Manual (FM) 23-34, *TOW Weapon System* (on either the M901 improved TOW vehicle, or the M966 HMMWV—high-mobility multipurpose wheeled vehicle). This certification (in memorandum form) must accompany the NCOs to the course. In addition, each student takes the test again during the first two days of the course and must pass it or be returned to his unit.

Commanders should select only highly motivated and proficient NCOs to attend the course and make sure they meet all the prerequisites. The course is open to those in the ranks of sergeant (promotable) through platoon sergeant and in MOSs 11H or 19D, Active Army, Army National Guard, or Army

Reserve. They must be graduates of the Basic NCO Course and have Secret clearances and their commanders' recommendations.

The TOW Master Gunner Course is designed to be tough. A student must receive a "GO" on all performance-oriented tests and 90 percent on all written examinations. The four-week course includes 214.5 hours of instruction, consisting of the following topics:

- Advanced training management.
- TOW weapon system maintenance.
- Vehicle maintenance.
- TOW missile family.
- MILES (multiple-integrated laser engagement system) operations.
- TOW Gunnery Trainer.
- Combat vehicle identification and fratricide prevention.
- TOW gunnery tables.
- TOW Field Tactical Trainer (TFTT).
- Conduct of a TOW live fire.
- Secondary weapon systems.
- Zeroing machineguns (live fire).
- TOW strategy.